

selecting one of a first image signal interpolation mode and a second image signal interpolation mode whose interpolation method is different from that of the first image signal interpolation mode; and

adaptatively interpolating the image signal in accordance with the judgement results in said judging step and with the selection results in said selecting step.

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21. (Twice Amended) A display control method comprising the steps of:
selectively inputting one of a computer image signal generated from a computer and a television image signal of a television format;
judging a resolution of the image signal input in said inputting step; and
adaptatively interpolating the image signal input in said inputting step, in accordance with a kind of the image signal input in said inputting step and with the judgement results by said judging step.

REMARKS

Claims 1-21 are presented for consideration. Claims 1, 9, 13, 19, 20 and 21 are the independent claims.

The independent claims and selected dependent claims have been amended to further distinguish Applicant's invention from the cited art.

All of the claims, i.e., Claims 1-21, stand rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Kesatoshi '937. This rejection is respectfully traversed.

Claim 1 of Applicant's invention relates to a display control apparatus comprised of an input unit arranged to input an image signal, a judgement unit arranged to judge

a resolution of the image signal, and a detection unit arranged to detect a moving change between pictures of the image signal. An interpolation unit adaptatively interpolates the image signal in accordance with the judgement results by the judgement unit and with the detection results by the detection unit.

Claim 9 relates to a display control apparatus that includes an input unit and a judgement unit as set forth in Claim 1. In addition, a selection unit selects one of a first image signal interpolation mode and a second image signal interpolation mode whose interpolation method is different from that of the first image signal interpolation mode, and an interpolation unit adaptatively interpolates the image signal in accordance with the judgement results and with the selection results.

Claim 13 relates to a display control apparatus comprised of an input unit arranged to selectively input one of a computer input image signal generated from a computer and a television image signal of a television format, and a judgement unit arranged to judge a resolution of the image signal input. In addition, an interpolation unit adaptatively interpolates the image signal input by the input unit in accordance with a kind of the image signal input by the input unit and with the judgement results by the judgement unit.

Claims 19, 20 and 21 relate to a display control method and correspond to Claims 1, 9 and 13, respectively.

Support for the changes to Claims 1 and 19 are shown, for example, in the motion detection unit 16 shown in Figure 1 and the accompanying specification beginning on page 6, line 24. Support for the changes to Claims 9 and 20 can be found, for example, in Figure 2 and the accompanying specification beginning on page 11, line 21. Support for the amendments to Claims 13 and 21 are shown, for example, in Figures 11 and 14, and discussed on page 26, line 7, et seq.

As will be appreciated, in Applicant's claimed invention the image signal is interpolated in accordance with judgement results and either detection results, selection results or the kind of image signal input. This allows for a display control method and apparatus to provide a superior image.

As discussed in the previous Amendment of May 24, 2002, the Kesatoshi patent relates to a video image scaler in which an input image signal is converted to a predetermined resolution corresponding to the display apparatus. As understood, Kesatoshi uses a single interpolation method in which a video scaler 36 expands or contracts the video image to make the resolution of the input video signal coincident with a standard resolution of the display device. Thus, Kesatoshi's interpolation method relies solely on a discriminated resolution of the input image signal.

It is respectfully submitted, therefore, that Kesatoshi does not teach or suggest, inter alia, interpolating the image signal in the manner recited in Applicant's independent claims. In Claims 1 and 19, for example, the image signal is interpolated based on the judgement results of the resolution of the image signal and a detected moving change between pictures of the image signal. With respect to Claims 9 and 20, the image signal is interpolated in accordance with a judged resolution of the image signal and with the selection of a first image signal interpolation mode or a second image interpolation mode which is different from the first image signal interpolation mode. Lastly, in Claims 13 and 21, the image signal is interpolated based on a kind of image signal input by the input unit and with a judged resolution of the image signal input.

Accordingly, reconsideration and withdrawal of the rejection of Claims 1-21 under 35 U.S.C. §102 is respectfully requested.

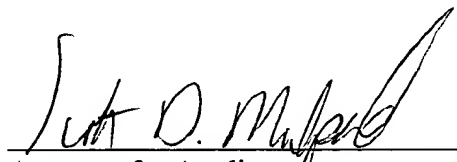
Therefore, it is submitted that Applicant's invention as set forth in independent Claims 1, 9, 13 and 19-21 is patentable over the cited art. In addition, dependent Claims 2-8, 10,

12 and 14-18 set forth additional features of Applicant's invention. Independent consideration of the dependent claims is respectfully requested.

In view of the foregoing, reconsideration and allowance of this application is deemed to be in order and such action is respectfully requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



Attorney for Applicant
Scott D. Malpede
Registration No. 32,533

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200

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VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

1. (Twice Amended) A display control apparatus comprising:
 - an input unit, arranged to input an image signal;
 - a judgement unit, arranged to judge a resolution of the image signal;
 - a detection unit, arranged to detect a moving change between pictures of the image signal; and
 - an interpolation unit, arranged to adaptatively interpolate the image signal in accordance with the judgement results by said judgement unit and with the detection results by said detection unit.

9. (Twice Amended) A display control apparatus comprising:
 - an input unit, arranged to input an image signal;
 - a judgement unit, arranged to judge a resolution of the image signal;
 - a selection unit, arranged to select one of a first [display] image signal interpolation mode and a second [display] image signal interpolation mode [to display the image signal on a display device] whose interpolation method is different from that of the first image signal interpolation mode; and
 - an interpolation unit, arranged to adaptatively interpolate the image signal in accordance with the judgement results by said judgement unit and with the selection results by said selection unit.

10. (Amended) An apparatus according to claim 9, wherein:

the first [display] image signal interpolation mode is a mode of interpolating the image signal to have a horizontal resolution same as the horizontal resolution of the display device and displaying the same image signal on a plurality of lines of the display device at the same time; and

the second [display] image signal interpolation mode is a mode of interpolating the image signal to have horizontal and vertical resolutions same as the horizontal and vertical resolutions of the display device and displaying the image signal on the display device.

13. (Twice Amended) A display control apparatus comprising:

an input unit, arranged to selectively input one of a computer [input] image signal generated from a computer and a television [input] image signal of a television format;

a judgement unit, arranged to judge a resolution of the [input] image signal input by said input unit; and

an interpolation unit, arranged to adaptatively interpolate the [input] image signal input by said input unit in accordance with [the selection results] a kind of the image signal input by said input unit and with the judgement results by said judgement unit.

14. (Twice Amended) An apparatus according to claim 13, wherein said interpolation unit interpolates the television [input] image signal to have a horizontal resolution same as the horizontal resolution of a display device, if said input unit [selects] inputs the television [input] image signal, and interpolates the computer [input] image signal to have horizontal and vertical resolutions same as the horizontal and vertical resolutions of the display device if said input unit [selects] inputs the computer [input] image signal.

15. (Twice Amended) An apparatus according to claim 14, further comprising:

a control unit, arranged to control to display the same [input] image signal on a plurality of lines of the display device at the same time if the television [input] image signal is [selected] input.

18. (Twice Amended) An apparatus according to claim 13, further comprising:

a conversion unit, arranged to convert the television [input] image signal from a field unit signal into a frame unit signal.

19. (Twice Amended) A display control method comprising the steps of:

inputting an image signal;

judging a resolution of the image signal;

detecting a moving change between pictures of the image signal; and
adaptatively interpolating the image signal in accordance with the
judgement results in said judging step and with the detection results in said detecting step.

20. (Twice Amended) A display control method comprising the steps of:
inputting an image signal;
judging a resolution of the image signal;
selecting one of a first [display] image signal interpolation mode and a
second [display] image signal interpolation mode [to display the image signal on a display
device] whose interpolation method is different from that of the first image signal interpolation
mode; and

adaptatively interpolating the image signal in accordance with the
judgement results in said judging step and with the selection results in said selecting step.

21. (Twice Amended) A display control method comprising the steps of:
selectively inputting one of a computer [input] image signal generated
from a computer and a television [input] image signal of a television format;
judging a resolution of the [input] image signal input in said inputting
step; and

adaptatively interpolating the [input] image signal input in said
inputting step, in accordance with [the selection results] a kind of the image signal input in said
inputting step and with the judgement results by said judging step.